IN THE CLAIMS

Please substitute the following claims for all previous versions, and listings, of the claims, where text to be added is indicated by underlining and text to be deleted is indicated by strikethrough.

1. (**previously presented**) A microencapsulated catalyst-ligand system comprising a transition metal catalyst and a ligand microencapsulated within a permeable polymer microcapsule shell, wherein the permeable polymer microcapsule shell is formed by interfacial polymerization, the transition metal catalyst and the ligand encapsulated within the permeable polymer microcapsule shell are discrete, and the transition metal catalyst comprises a transition metal selected from the group consisting of platinum, palladium, osmium, ruthenium, rhodium, iridium, rhenium, scandium, cerium, samarium, yttrium, ytterbium, lutetium, cobalt, titanium, chromium, copper, iron, nickel, manganese, tin, mercury, silver, gold, zinc, vanadium, tungsten and molybdenum.

2. (**cancelled**)

3. (**cancelled**)

4. (**previously presented**) A microencapsulated catalyst-ligand system according to Claim 1 wherein the permeable polymer microcapsule shell is the product of self-condensation and/or cross-linking of etherified urea-formaldehyde resins or prepolymers in which from about 50 to about 98% of the methylol groups have been etherified with a C_4-C_{10} alcohol.

5. (**previously presented**) A microencapsulated catalyst-ligand system according to Claim 1 wherein the permeable polymer microcapsule shell is a polyurea microcapsule prepared from at least one polyisocyanate and/or tolylene diisocyanate.

6. (**currently amended**) A microencapsulated catalyst-ligand system according to Claim 5 wherein the polyisocyanates and/or tolylene diisocyanates are selected from the group consisting of 1-chloro-2,4-phenylene diisocyanate, m-phenylene diisocyanate (and its hydrogenated derivative), p-phenylene diisocyanate (and its hydrogenated derivative), 4,4'-methylenebis(phenyl isocyanate), 2,4-tolylene diisocyanate, tolylene diisocyanate (60% 2,4-isomer, 40% 2,6-isomer), 2,6-tolylene diisocyanate, 3,3'-dimethyl-4,4'-

biphenylene diisocyanate, 4,4'-methylenebis (2-methylphenyl isocyanate), 3,3'-dimethoxy-4,4'-biphenylene diisocyanate, 2,2',5,5'-tetramethyl-4,4'-biphenylene diisocyanate, 80% 2,4- and 20% 2,6-isomer of tolylene diisocyanate, polymethylene polyphenylisocyanate (PMPPI), 1,6-hexamethylene diisocyanate, isophorone diisocyanate, tetramethylxylene diisocyanate and 1,5-naphthylene diisocyanate.

7. **(cancelled)**

8. **(cancelled)**

9. **(previously presented)** A microencapsulated catalyst-ligand system according to Claim 1 wherein the transition metal catalyst comprises palladium.

10. **(previously presented)** A microencapsulated catalyst-ligand system according to Claim 9 wherein the ligand is an organic moiety comprising one or more heteroatoms selected from N, O, P and S.

11. **(original)** A microencapsulated catalyst-ligand system according to Claim 10 wherein the ligand is an organic ligand of formula (1):

$$PR^1R^2R^3$$

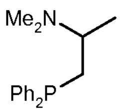
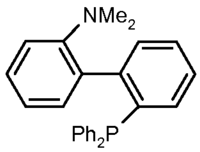
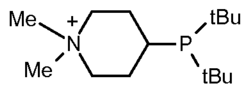
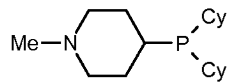
(1)

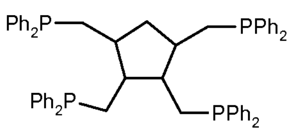
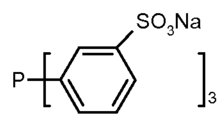
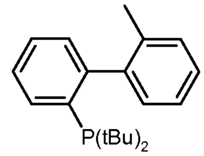
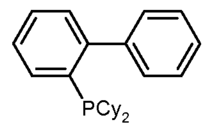
wherein:

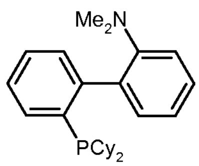
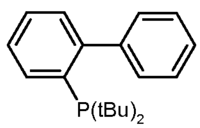
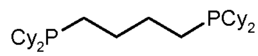
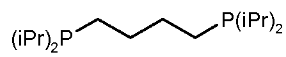
R^1, R^2 and R^3 are each independently an optionally substituted hydrocarbyl group, an optionally substituted hydrocarbyloxy group, or an optionally substituted hetrocyclyl group or one or more of R^1 & R^2, R^1 & R^3, R^2 & R^3 optionally being linked in such a way as to form an optionally substituted ring(s).

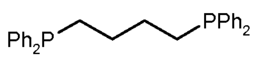
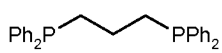
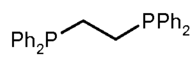
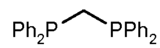
12. **(previously presented)** A microencapsulated catalyst-ligand system according to Claim 11 wherein the ligand is PMe_2CF_3, $P(OEt)_3$, $P(Et)_3$, $P(Bu)_3$, P(cyclohexyl)$_3$, $PPhEt_2$, PPh_2Me, PPh_3, $P(CH_2Ph)_3$, $P(CH_2Ph)Ph_2$, P(*p*-tolyl)$_3$, P(*o*-C_6H_4OMe)$_3$, $P(OPh)_3$, P(O-*p*-tolyl)$_3$, P(*p*-C_6H_4OMe)$_3$, P(*o*-tolyl)$_3$, P(*m*-tolyl)$_3$, PMe_3, $PPhMe_2$, PPh_2Et, P(*i*-Pr)$_3$, P(*t*-Bu)$_3$, $PPhCH_2Ph$, PPh_2OEt, $PPh(OEt)_2$, P(O-*o*-tolyl)$_3$, $P(OMe)_3$, P(*n*-Pr)$_3$, $PPh(i\text{-}Pr)_2$, $PPh_2(i\text{-}Pr)$, $PPhBu_2$, PPh_2Bu, P(*i*-Bu)$_3$, PPh(cyclohexyl)$_2$, PPh_2(cyclohexyl), $P(CH_2Ph)_2Et$, $P(CH_2Ph)Et_2$, $P(C_6F_5)Ph_2$, P(*p*-C_6H_4F)$_3$, P(*p*-C_6H_4Cl)$_3$, $P(C_6F_5)_2Ph$, P(*o*-

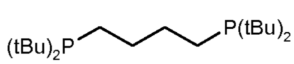
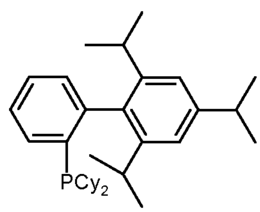
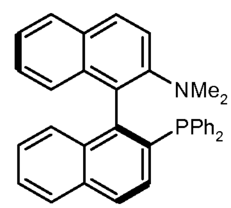
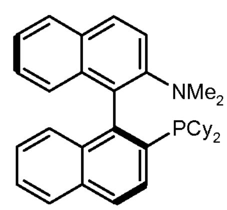
$C_6H_4F)_3$, P(*o*-$C_6H_4Cl)_3$, P(2-furanyl)$_3$, P(2-thienyl)$_3$, P(*n*-octyl)$_3$, P(*p*-$C_6H_4NO_2)_3$,

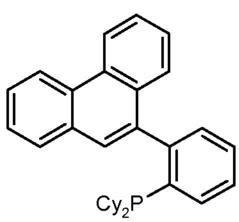
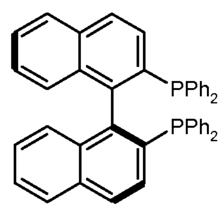
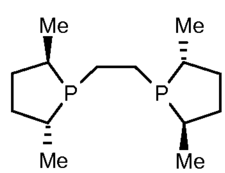
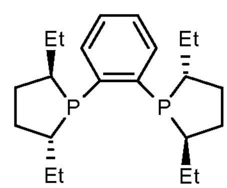
 ,  ,  ,  ,

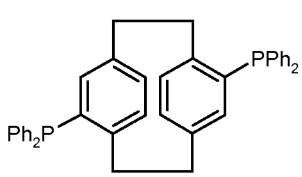
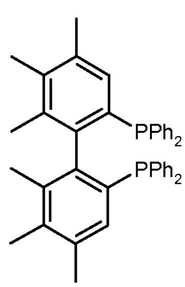
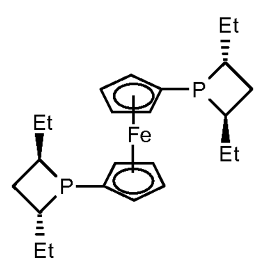
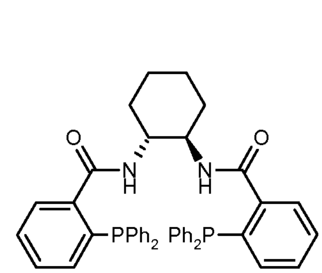
 ,  ,  ,  ,

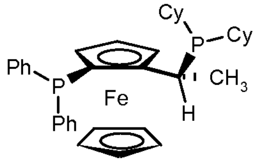
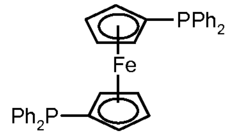
 ,  ,  ,  ,

 ,  ,  ,  ,

 ,  ,  ,  ,

 ,  ,  ,  ,

 ,  ,  ,  ,

 , or  , wherein Cy represents cyclohexyl.

13. (**withdrawn -- previously presented**) A process for the preparation of a microencapsulated catalyst-ligand system which comprises forming a permeable polymer microcapsule shell by interfacial polymerization in the presence of a transition metal catalyst and a ligand, wherein the transition metal catalyst and the ligand are microencapsulated within the permeable polymer microcapsule shell, the transition metal catalyst and the ligand encapsulated within the permeable polymer microcapsule shell are discrete, and the transition metal catalyst comprises a transition metal selected from the group consisting of platinum, palladium, osmium, ruthenium, rhodium, iridium, rhenium, scandium, cerium, samarium, yttrium, ytterbium, lutetium, cobalt, titanium, chromium, copper, iron, nickel, manganese, tin, mercury, silver, gold, zinc, vanadium, tungsten and molybdenum.

14. (**withdrawn -- previously presented**) A process for the preparation of a microencapsulated catalyst-ligand system according to Claim 13 wherein the step of forming a permeable polymer microcapsule shell by interfacial polymerization comprises

(a) dissolving or dispersing the catalyst and ligand in a first phase,

(b) dispersing the first phase in a second, continuous phase to form an emulsion,

(c) reacting one or more microcapsule wall-forming materials at the interface between the dispersed first phase and the continuous second phase to form a permeable microcapsule polymer shell encapsulating the dispersed first phase core, and optionally

(d) recovering the microcapsules from the continuous phase.

15. (**withdrawn -- previously presented**) A process for the preparation of a microencapsulated catalyst-ligand system comprising forming a permeable polymer microcapsule shell by interfacial polymerization in the presence of a transition metal catalyst and treating the permeable polymer microcapsule shell with a ligand;

wherein the transition metal catalyst and the ligand are microencapsulated within the permeable polymer microcapsule shell, the transition metal catalyst and the ligand encapsulated within the permeable polymer microcapsule shell are discrete, and the transition metal catalyst comprises a transition metal selected the group consisting of

platinum, palladium, osmium, ruthenium, rhodium, iridium, rhenium, scandium, cerium, samarium, yttrium, ytterbium, lutetium, cobalt, titanium, chromium, copper, iron, nickel, manganese, tin, mercury, silver, gold, zinc, vanadium, tungsten and molybdenum.

16. (**withdrawn -- previously presented**) A process for the preparation of a microencapsulated catalyst-ligand system according to claim 15 wherein the step of forming a permeable polymer microcapsule shell by interfacial polymerization comprises

(a) dissolving or dispersing the catalyst in a first phase,

(b) dispersing the first phase in a second, continuous phase to form an emulsion, and

(c) reacting one or more microcapsule wall-forming materials at the interface between the dispersed first phase and the continuous second phase to form a permeable polymer microcapsule polymer shell encapsulating the dispersed first phase core.

17. (**withdrawn -- previously presented**) A process for the preparation of a microencapsulated catalyst-ligand system comprising forming a permeable polymer microcapsule shell by interfacial polymerization in the presence of a ligand and treating the microcapsule shell with a transition metal catalyst solution;

wherein the transition metal catalyst and the ligand are microencapsulated within the permeable polymer microcapsule shell, the transition metal catalyst and the ligand encapsulated within the permeable polymer microcapsule shell are discrete, and the transition metal catalyst comprises a transition metal selected from the group consisting of platinum, palladium, osmium, ruthenium, rhodium, iridium, rhenium, scandium, cerium, samarium, yttrium, ytterbium, lutetium, cobalt, titanium, chromium, copper, iron, nickel, manganese, tin, mercury, silver, gold, zinc, vanadium, tungsten and molybdenum.

18. (**withdrawn -- previously presented**) A process for the preparation of a microencapsulated catalyst-ligand system according to Claim 17 wherein the step of forming a permeable polymer microcapsule shell by interfacial polymerization comprises

(a) dissolving or dispersing the ligand in a first phase,

(b) dispersing the first phase in a second, continuous phase to form an emulsion, and

(c) reacting one or more microcapsule wall-forming materials at the interface between the dispersed first phase and the continuous second phase to form a permeable microcapsule polymer shell encapsulating the dispersed first phase core.

19. (**withdrawn -- previously presented**) A process according to Claim 13, 15 or 17 wherein the interfacial polymerization comprises self-condensation and/or cross-linking of etherified urea-formaldehyde resins or prepolymers in which from about 50 to about 98% of the methylol groups have been etherified with a C_4-C_{10} alcohol.

20. (**withdrawn -- previously presented**) A process according to Claim 13, 15 or 17 wherein the interfacial polymerization comprises condensation of at least one polyisocyanate and/or tolylene diisocyanate.

21. (**withdrawn – currently amended**) A process according to Claim 20 wherein the polyisocyanates and/or tolylene diisocyanates are selected from the group consisting of 1-chloro-2,4-phenylene diisocyanate, m-phenylene diisocyanate (and its hydrogenated derivative), p-phenylene diisocyanate (and its hydrogenated derivative), 4,4'-methylenebis(phenyl isocyanate), 2,4-tolylene diisocyanate, tolylene diisocyanate (60% 2,4-isomer, 40% 2,6-isomer), 2,6-tolylene diisocyanate, 3,3'-dimethyl-4,4'-biphenylene diisocyanate, 4,4'-methylenebis (2-methylphenyl isocyanate), 3,3'-dimethoxy-4,4'-biphenylene diisocyanate, 2,2',5,5'-tetramethyl-4,4'-biphenylene diisocyanate, 80% 2,4- and 20% 2,6-isomer of tolylene diisocyanate, polymethylene polyphenylisocyanate (PMPPI), 1,6-hexamethylene diisocyanate, isophorone diisocyanate, tetramethylxylene diisocyanate and 1,5-naphthylene diisocyanate.

22. (**withdrawn**) A process according to Claim 20 or Claim 21 wherein a crosslinking reagent is present.

23. (**withdrawn -- previously presented**) A process according to Claim 13, 15 or 17 wherein the interfacial polymerization comprises self-condensation and/or cross-linking of etherified urea-formaldehyde resins or prepolymers in which from about 50 to about 98% of the methylol groups have been etherified with a C_4-C_{10} alcohol and wherein unreacted amine groups are converted to urea, amide or urethane groups by post reaction with a monoisocyanate, acid chloride or chloroformate.

24. (**withdrawn -- previously presented**) A process according to Claim 14, 16 or 18 wherein the wall-forming materials comprise etherified urea-formaldehyde resins or prepolymers in which from about 50 to about 98% of the methylol groups have been etherified with a C_4-C_{10} alcohol.

25. (**withdrawn -- previously presented**) A process according to Claim 14, 16 or 18 wherein the wall-forming materials comprise at least one polyisocyanate and/or tolylene diisocyanate.

26. (**withdrawn – currently amended**) A process according to Claim 25 wherein the polyisocyanates and/or tolylene diisocyanates are selected from the group consisting of 1-chloro-2,4-phenylene diisocyanate, m-phenylene diisocyanate (and its hydrogenated derivative), p-phenylene diisocyanate (and its hydrogenated derivative), 4,4'-methylenebis(phenyl isocyanate), 2,4-tolylene diisocyanate, tolylene diisocyanate (60% 2,4-isomer, 40% 2,6-isomer), 2,6-tolylene diisocyanate, 3,3'-dimethyl-4,4'-biphenylene diisocyanate, 4,4'-methylenebis (2-methylphenyl isocyanate), 3,3'-dimethoxy-4,4'-biphenylene diisocyanate, 2,2',5,5'-tetramethyl-4,4'-biphenylene diisocyanate, 80% 2,4- and 20% 2,6-isomer of tolylene diisocyanate, polymethylene ~~polyphenylisocyantae~~ polyphenylisocyanate (PMPPI), 1,6-hexamethylene diisocyanate, isophorone diisocyanate, tetramethylxylene diisocyanate and 1,5-naphthylene diisocyanate.

27. (**withdrawn**) A process according to Claim 26 wherein the wall-forming materials comprise a crosslinking reagent.

28. (**withdrawn -- previously presented**) A process according to Claim 13, 15 or 17 wherein the catalyst is an inorganic catalyst, preferably a transition metal catalyst.

29. (**withdrawn**) A process according to Claim 28 wherein the catalyst is a transition metal catalyst wherein the transition metal is platinum, palladium, osmium, ruthenium, rhodium, iridium, rhenium, scandium, cerium, samarium, yttrium, ytterbium, lutetium, cobalt, titanium, chromium, copper, iron, nickel, manganese, tin, mercury, silver, gold, zinc, vanadium, tungsten and molybdenum.

30. (**withdrawn**) A process according to Claim 29 wherein the catalyst is a transition metal catalyst wherein the transition metal is palladium, preferably the palladium is in the form of an organic solvent soluble form and most preferably is palladium acetate.

31. (**withdrawn -- previously presented**) A process according to Claim 13, 15 or 17 wherein the ligand is an organic moiety comprising one or more hetroatoms selected from N, O, P and S.

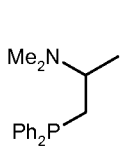
32. (**withdrawn**) A process according to Claim 31 wherein the ligand is an organic ligand of formula (1):

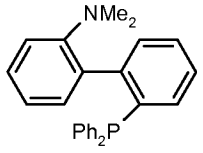
$$PR^1R^2R^3$$

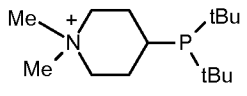
(1)

wherein:

R^1, R^2 and R^3 are each independently an optionally substituted hydrocarbyl group, an optionally substituted hydrocarbyloxy group, or an optionally substituted hetrocyclyl group or one or more of R^1 & R^2, R^1 & R^3, R^2 & R^3 optionally being linked in such a way as to form an optionally substituted ring(s).

33. (**withdrawn -- previously presented**) A process according to Claim 32 wherein the ligand is PMe_2CF_3, $P(OEt)_3$, $P(Et)_3$, $P(Bu)_3$, P(cyclohexyl)$_3$, $PPhEt_2$, PPh_2Me, PPh_3, $P(CH_2Ph)_3$, $P(CH_2Ph)Ph_2$, P(*p*-tolyl)$_3$, P(*o*-$C_6H_4OMe)_3$, $P(OPh)_3$, P(O-*p*-tolyl)$_3$, P(*p*-$C_6H_4OMe)_3$, P(*o*-tolyl)$_3$, P(*m*-tolyl)$_3$, PMe_3, $PPhMe_2$, PPh_2Et, P(*i*-Pr)$_3$, P(*t*-Bu)$_3$, $PPhCH_2Ph$, PPh_2OEt, $PPh(OEt)_2$, P(O-*o*-tolyl)$_3$, $P(OMe)_3$, P(*n*-Pr)$_3$, $PPh(i\text{-}Pr)_2$, PPh_2(*i*-Pr), $PPhBu_2$, PPh_2Bu, P(*i*-Bu)$_3$, PPh(cyclohexyl)$_2$, PPh_2(cyclohexyl), $P(CH_2Ph)_2Et$, $P(CH_2Ph)Et_2$, $P(C_6F_5)Ph_2$, P(*p*-$C_6H_4F)_3$, P(*p*-$C_6H_4Cl)_3$, P(*o*-$C_6H_4F)_3$, P(*o*-$C_6H_4Cl)_3$, P(2-furanyl)$_3$, P(2-thienyl)$_3$, P(*n*-octyl)$_3$, P(*p*-$C_6H_4NO_2)_3$, 

, 

, 

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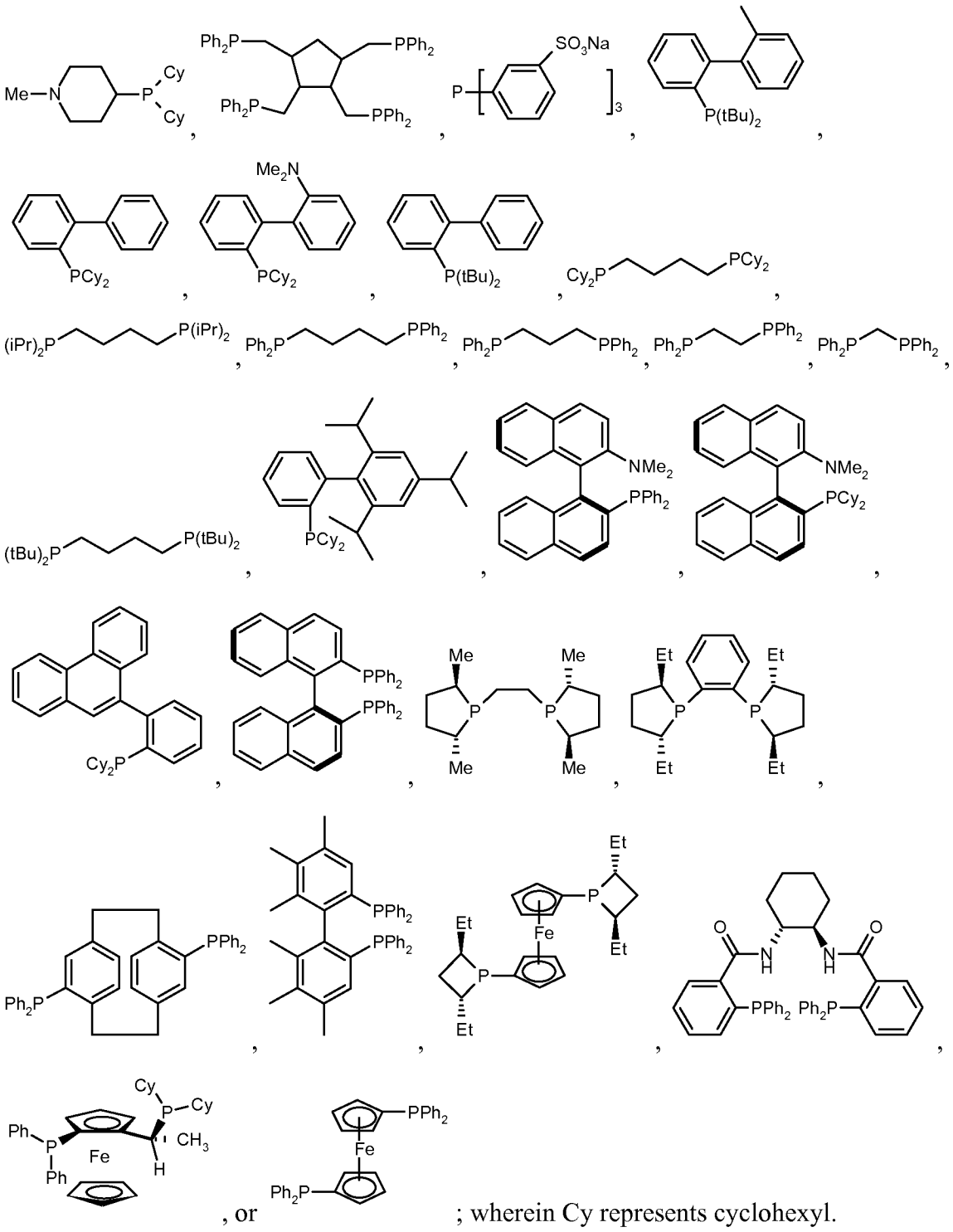

; wherein Cy represents cyclohexyl.

34. (**withdrawn -- previously presented**) A microencapsulated catalyst-ligand system according to claim 13, 15 or 17.

35. **(previously presented)** A microencapsulated catalyst-ligand system according to Claim 9 wherein the transition metal catalyst comprises palladium in an organic solvent soluble form.

36. **(previously presented)** A microencapsulated catalyst-ligand system according to Claim 35 wherein the transition metal catalyst is palladium acetate.

37. **(previously presented)** A microencapsulated catalyst-ligand system according to Claim 1 wherein the permeable polymer microcapsule shell is prepared from polymethylene polyphenyl di-isocyanate; the transition metal catalyst is palladium (II) acetate; and the ligand is triphenylphosphine.